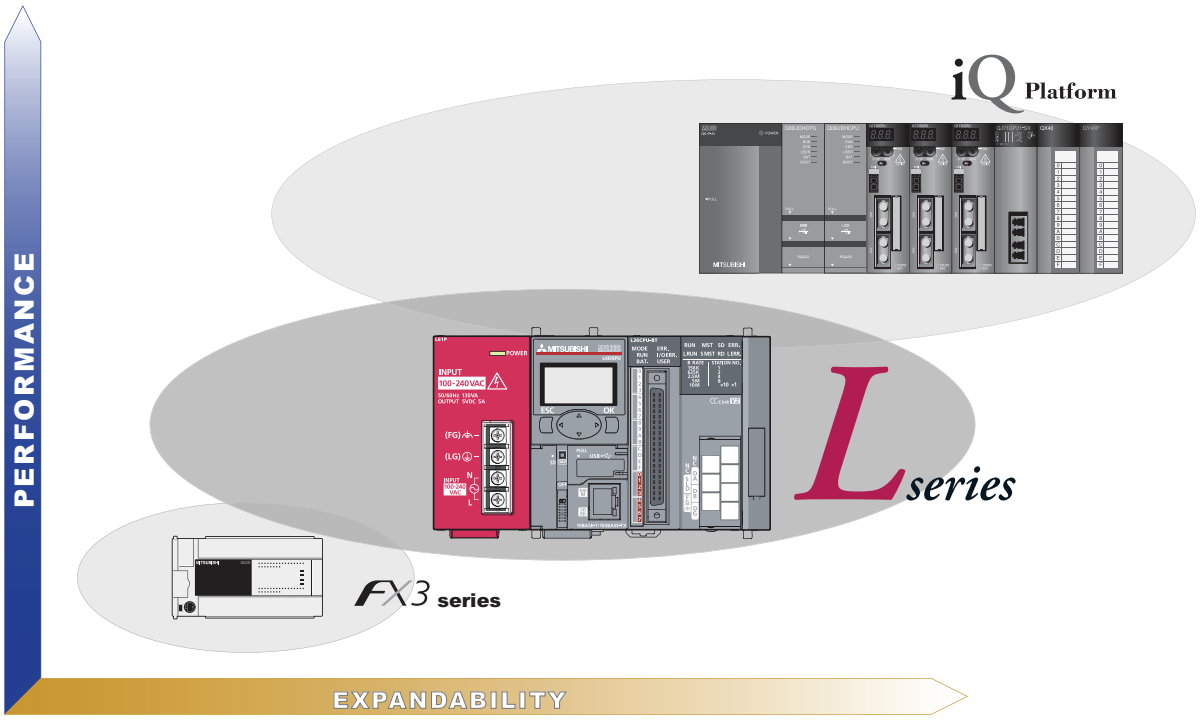
Programmable Logic Controllers
L Series



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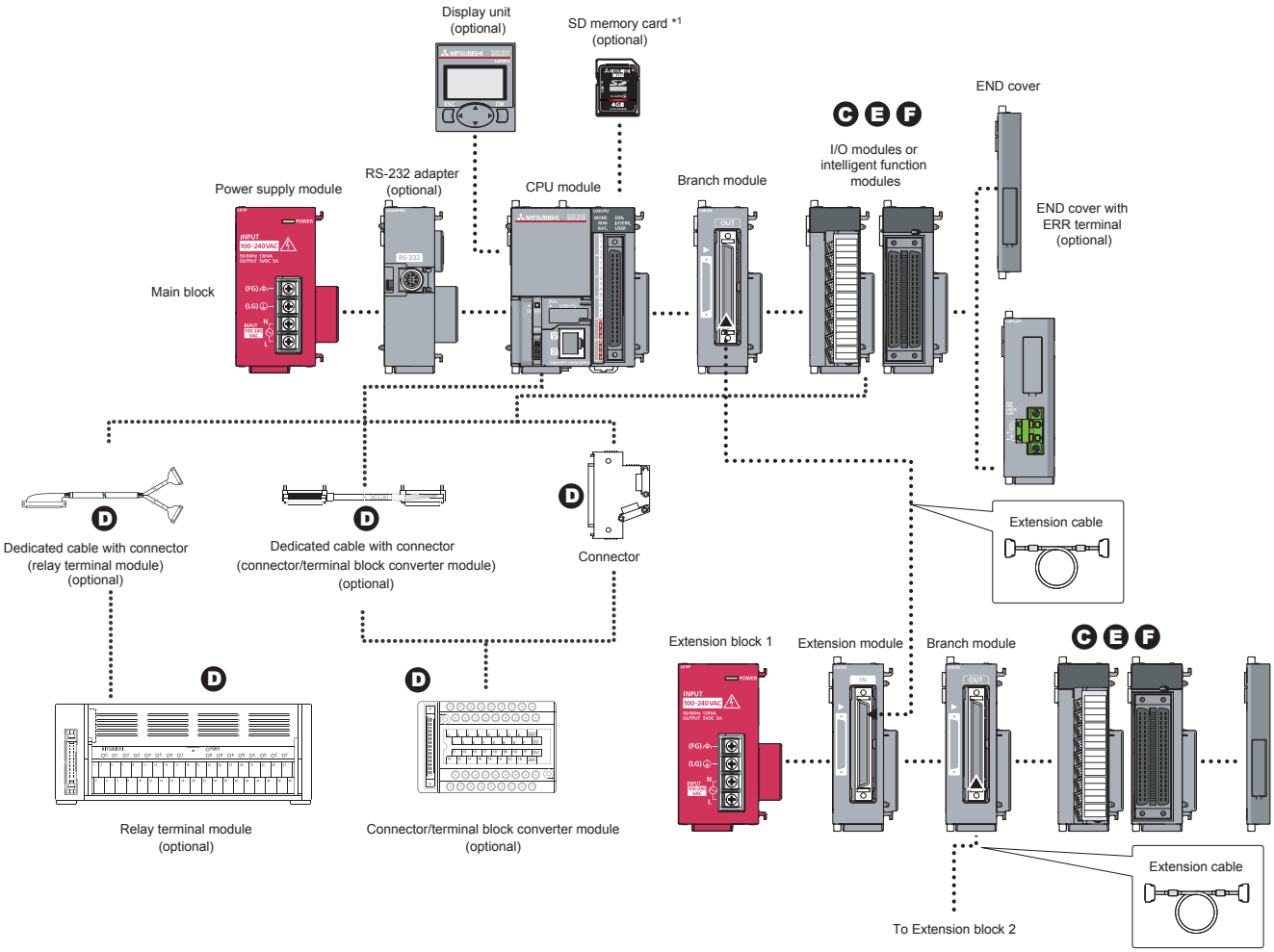
Stock Product: Stock product is product MEAU makes every effort to have on hand for immediate shipment. There may be instances when we are out of stock due to unexpected large requirements. All stock product will be indicated in this book by an "S" in the Stocked Item columns/rows.

Non-Stock Product: Non-stock product is product supplied on an "as-needed" basis. Standard lead times of 12 - 16 weeks apply, product is non-returnable and non-cancelable. Product listed as non-stock may change to stock product subject to increases in sales and usage. All non-stock product will be indicated in this book by a dash "-" in the Stocked Item columns/rows.

L Series System Configuration



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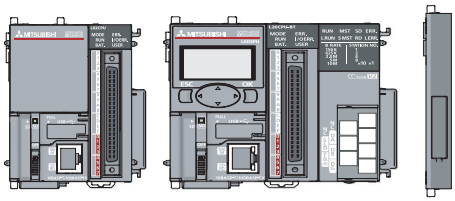
A. L Series CPU Modules

The L Series is a powerful but compact modular controller with many features built-in to the CPU itself. The rack-free design promotes high system flexibility with minimum form factor. Built-in Mini-B USB and Ethernet allow for easy communication, along with a built-in SD/SDHC memory slot for data logging and memory storage, and built-in digital I/O for simple high-speed counting and positioning functions. The high-performance version CPU also includes a built-in CC-Link interface for Master/Local Station networking. This highly flexible architecture makes the L Series ideal for both stand-alone and networked machines.



Key Features:

- Flexible rack-free modular design
- All-in-one CPU with built-in Ethernet, and positioning I/O functions
- Up to 260K Step memory
- As low as 9.5ns instruction processing
- 24 points of built-in I/O
- Built-in data logging capabilities
- Commonly available SD/SDHC memory media
- Expansion capabilities for I/O, Analog, Communication, and Motion/Positioning
- Integration into iQ Works and GX Works2 next generation software

CPU Specifications

Model Number		L02CPU(-P)	L06CPU(-P)	L26CPU(-P)	L26CPU-(P)BT
Stocked Item		S	S	S	S
Certification		UL-cUL-CE	UL-cUL-CE	UL-cUL-CE	UL-cUL-CE
Processing Speed	LD Instruction	40ns	9.5ns		
	MOV Instruction	80ns	19ns		
Program Capacity		20k steps	60k steps	260k steps	
Memory Capacity	Program Memory (Drive 0)	80 kB	240 kB	1040 kB	
	Standard RAM (Drive 3)	128 kB	768 kB	768 kB	
	Standard RAM (Drive 4)	512 kB	1024 kB	2048 kB	
Maximum Number of Files	Program Memory	64 programs	124 programs	252 programs	
	Standard RAM	4 files (file register file, local device file, sampling trace file, and module error collection file)			
	Standard ROM	128 files	256 files	256 files	
Memory Card Type		SD/SDHC			
Max. Number of Intelligent Function Module Parameter Settings	Initial Setting	2048	4096	4096	
	Refresh	1024	2048	2048	
5VDC Internal Current Consumption	With Display Module	1.00A	1.06A	1.06A	1.43A
	Without Display Module	0.94A	1.00A	1.00A	1.37A
Max. I/O Device Points		8192 points (X/Y0 to X/Y1FFF)			
Max. Physical I/O Points		1024 points (X/Y0 to X/Y3FF)	4096 points (X/Y0 to X/YFFF)		
Built-in CC-Link		No	No	No	Yes
Weight (kg)		0.37			0.47
Dimensions (W x H x D) mm		70 x 90 x 95			98.5 x 90 x 95

CPU Built-In Input Specifications

Standard Input	Number of Input Points	10 points
	Rated Input Voltage	24VDC (+20%/-15%, ripple ratio within 5%)
	Rated Input Current	4.1mA TYP. (at 24VDC)
	Minimum Input Response Speed	100µs
	Input Response Time Setting	0.1ms/1ms/5ms/10ms/20ms/70ms
High-Speed Input	Number of Input Points	6 points
	Rated Input Voltage	24V input: 24VDC (+20%/-15%, ripple ratio within 5%) Differential input: EIA Standard RS-422-A differential type line driver level
	Rated Input Current	24V input: 6.0mA TYP. (at 24VDC) Differential input: EIA Standard RS-422-A differential type line driver level
	Minimum Input Response Speed	10µs
	Input Response Time Setting	0.01ms/0.1ms/0.2ms/0.4ms/0.6ms/1ms

CPU Built-In Output Specifications

Model Number		L02CPU/L06CPU	L26CPU/L26CPU-BT	L02CPU-P/L06CPU-P	L26CPU-P/L26CPU-P
Output Type		Sink Transistor		Source Transistor	
Number of Output Points		8 points			
Rated Load Voltage		5 to 24VDC 0.1A			
Response Time	OFF-ON	1µs or less (rated load, resistive load)			
	ON-OFF	1µs or less (rated load, resistive load)			

CPU Built-In I/O - Positioning Function Specifications

Number of Control Axes			2 axes
Control Unit			Pulse
Positioning Control	**Positioning Control Method**	**PTP Control (*1)**	INC system, ABS system
		Speed-Position Switching Control	INC system
	Positioning Control Range	**PTP Control (*1)**	-2147483648 to 2147483647 pulse
		Speed-Position Switching Control	0 to 2147483647 pulse
	Speed Command		0 to 200kpulse/s
	Acceleration/Deceleration System Selection		Automatic trapezoidal acceleration/deceleration and S-pattern acceleration/deceleration
	Acceleration/Deceleration Time		0 to 32767ms
Starting Time (1-Axis Linear Control)			Trapezoidal acceleration/deceleration (1-axis start): 30µs/axis S-pattern acceleration/deceleration (1-axis start): 35µs/axis
Command Pulse Output	**Pulse Output Method**		Open collector output (5 to 24VDC), sink or source logic
	Maximum Output Speed		200kpulse/s
	Maximum Connection Distance from Drive Unit		2m
External Input	**Zero Signal**		24VDC 6mA Equivalent with differential driver 20mA
	Speed-Position Switching Signal		DC24V 4.1mA
	Near-Point Dog Signal		
	Upper and Lower Limit Signal		
	Drive Unit READY Signal		
	Minimum Input Response Time		Zero signal: 10µs Speed-position switching signal, near-point dog signal: 100µs Upper and lower limit signal, drive unit READY signal: 2ms
External Output	**Deviation Counter Clear Signal**		ADY signal: 2ms External output; Deviation counter clear signal, sink or source logic
	Response Time	**OFF-ON**	1µs or less (rated load, resistive load)
		ON-OFF	

Note:
1. The abbreviation for Point To Point, referring to position control.

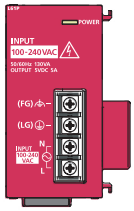
CPU Built-In I/O - High Speed Counter Specifications

Number of Channels			2ch
Count Input Signal	**Phase**		1-phase input (multiple of 1/2), CW/CCW, 2-phase input (multiple of 1/2/4)
	Signal Level	**24V Input**	24VDC 6mA
		Differential Input	EIA Standard RS-422-A differential type line driver level (Equivalent with AM26LS31 (manufactured by Texas Instruments Japan Limited))
Counter	**Maximum Counting Speed**		200kpulse/s (1-phase multiple of 2, 2-phase multiple of 4)
	Counting Range		Binary with 32-bit code (-2147483648 to 2147483647)
	Type		UP/DOWN preset counter (+ ring counter function)
	Minimum Count Pulse Width (Duty Ratio 50%)	**Phase 1**	5µs
		Phase 2	10µs
	Minimum Phase Differential for 2-Phase Input		5µs
Coincidence Output	**Comparison Range**		Binary with 32-bit code (-2147483648 to 2147483647)
	Comparison Result		Set value < Count value; Set value = Count value; Set value > Count value
External Input	**Phase Z (Preset)**	**24V Input**	Open collector; 24VDC 6mA
		Differential Input	EIA Standard RS-422-A differential type line driver level (Equivalent with AM26LS31 (manufactured by Texas Instruments Japan Limited))
	Function Start		24VDC 4.1mA
	Latch		
	Minimum Input Response Time		Phase Z: 10µs Function start, latch: 100µs
External Output	**Comparison Output**		2 points/ch
	Output Voltage/Current		5 to 24VDC 0.1A
	Output Response Time	**OFF-ON**	1µs or less (rated load, resistive load)
		ON-OFF	
PWM Output	**Output Frequency Range**		DC to 200kHz
	Minimum ON Width		1µs
	Duty Ratio		ON time can be set in increments of 0.1µs.
Pulse Width Measurement	**Measurement Item**		Pulse width (ON width: 200µs or more, OFF width: 200µs or more)
	Measurement Resolution		5µs
	Measurement Points		1 point/ch

CPU Built-In Ethernet Port Specifications

Transmission Specification	Data Transfer Speed		100/10Mbps
	Communication Mode		Full-duplex/Half-duplex
	Transmission Method		Base band
	Maximum Distance Between Hub and Node		100m
	Maximum Number of Connectable Nodes	10BASE-T	Maximum of cascading hub connections
		100BASE-TX	Maximum of 2 cascading hub connections
Number of Connections	TCP/IP		Total of 16 for socket communications, MELSOFT connections, and MC protocol (*1). One for FTP
	UDP/IP		
Cable to Use (*2)	For 10BASE-T Connection		Cables compliant to Ethernet standards, category 3 or higher (STP/UTP cables) (*3)
	For 100BASE-TX Connection		Cables compliant to Ethernet standards, category 5 or higher (STP cables)

Notes:
1. Only 3E frames may be used.
2. Straight through cable. Also, CPU is connected directly with a GOT, a cross cable may be used.
3. The use of STP (Shielded Twisted Pair) cables is recommended in noisy environments.



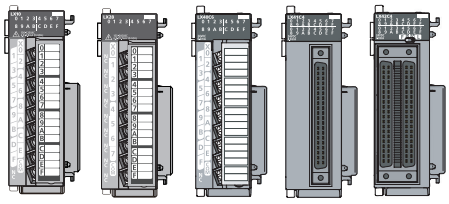
B. Power Supplies

The L Series has three Power Supply Units selectable according to AC/DC power requirements.

Power Supply Module Specifications

Model Number	L61P (*1)	L63P	L63SP
Stocked Item	S	S	S
Certification	UL • cUL • CE		
Input Power Supply	100 to 240 VAC (-15% to +10%)	24 VDC (-35% to +30%)	24 VDC (-35% to +30%)
AC Supply Frequency	50/60Hz (-5% to +5%)	-	-
AC Supply Voltage Distortion Factor	Within 5%	-	-
Maximum Input Apparent Power	130 VA	-	-
Maximum Input Power	-	45W	45W
Inrush Current	≤8ms @ 20A	≤1ms @ 100A (for 24 VDC input)	100A within 1ms (24 VDC input)
Rated Output Current (5VDC)	5A		
Allowable Momentary Power Failure Time	10ms	10ms (24 DC input)	Within 10ms (24 VDC input)
Weight (kg)	0.32	0.29	0.19
Dimensions (W x H x D) mm	45 x 90 x 95		29 x 90 x 95

Note:
1. AC Power Supply included in CPU sets; L02CPU-SET, L06CPU-SET, L26CPU-SET, and L26CPU-BT-SET

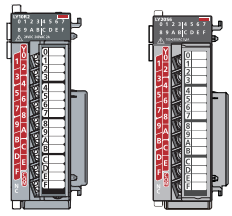


C. Digital I/O Expansion

Aside from the built-in I/O, the L Series has several I/O expansion options for Relay and Transistor.

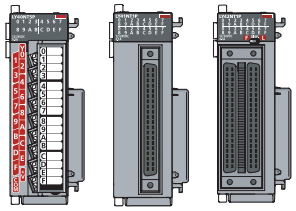
Digital Input Module Specifications (AC / DC Input Module)

Model Number		LX10	LX28	LX40C6	LX41C4	LX42C4
Stocked Item		S	S	S	S	S
Certification		UL • cUL • CE				
Number of Input Points		16 points	8 points	16 points	32 points	64 points
Rated Input Voltage		100 to 120VAC (+10%/ -15%), 50/60Hz (±3Hz)	100 to 240VAC (+10%/ -15%), 50/60Hz (±3Hz)	24VDC (+20/-15%, ripple ratio within 5%)		
Rated Input Current		8.2mA (100VAC, 60Hz), 6.8mA (100VAC, 50Hz)	16.4mA (200VAC, 60Hz), 13.7mA (200VAC, 50Hz) 8.2mA (100VAC, 60Hz), 6.8mA (100VAC, 50Hz)	6.0mA TYP. (at 24VDC input)	4.0mA TYP. (at 24VDC input)	4.0mA TYP. (at 24VDC input)
Response Time	OFF-ON	15ms or less (100VAC 50Hz, 60Hz)	15ms or less (100VAC 50Hz, 60Hz)10ms or less (200VAC 50Hz, 60Hz)	1ms/5ms/10ms/20ms/70ms (Initial setting is 10ms.)		
	ON-OFF	20ms or less (100VAC 50Hz, 60Hz)	20ms or less (100/200VAC 50Hz, 60Hz)			
Common Terminal Arrangement		16 points/common (common terminal: TB17)	8 points/common (common terminal: TB17)	16 points, 1 common	32 points, 1 common	32 points, 1 common
Number of Occupied I/O Points		16 points (I/O assignment: input 16 points)		16 points (I/O assignment: 16 input points)	32 points (I/O assignment: 32 input points)	64 points (I/O assignment: 64 input point)
External Connections		18-point screw terminal block (M3 × 6 screw)		18-point terminal block	40-pin connector	40-pin connector x 2
5VDC Internal Current Consumption		90mA (TYP. all points ON)	80mA (TYP. all points ON)	90mA (TYP. all points ON)	100mA (TYP. all points ON)	120mA (TYP. all points ON)
Weight (kg)		0.17	0.15	0.15	0.11	0.12
Dimensions (W x H x D) mm		28.5 x 90 x 117			28.5 x 90 x 95	



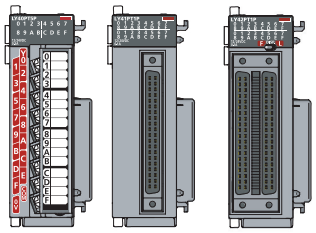
Digital Output Module Specifications

Model Number		LY10R2 (Relay)	LY20S6 (Triac)
Stocked Item		S	S
Certification		UL • cUL • CE	
Number of Output Points		16 points	
Maximum Load Voltage		24VDC / 240VAC	264VAC
Maximum Load Current		2A/point, 8A/common	0.6A/point, 4.8A/common
Protection Function	Surge Suppressor	-	CR absorber
	Fuse	-	-
Common Terminal Arrangement		16 points/common	16 points/common (common terminal: TB17)
Number of Occupied I/O points		16 points (I/O assignment: 16 input points)	16 points (I/O assignment: output 16 points)
External Connections		18-point terminal block	18-point screw terminal block (M3 × 6 screw)
5VDC Internal Current Consumption		460mA (TYP. all points ON)	300mA (TYP. all points ON)
Weight (kg)		0.21	0.22
Dimensions (W x H x D) mm		28.5 x 90 x 117	



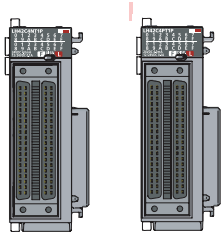
Digital Output Module Specifications (Sink Transistor Output Modules)

Model Number		LY40NT5P	LY41NT1P	LY42NT1P
Stocked Item		S	S	S
Certification		UL • cUL • CE		
Number of Output Points		16 points	32 points	64 points
Rated Load Voltage		12 to 24VDC (+20%/-15%)		
Maximum Load Current		0.5A/point, 5A common	0.1A / point, 2A / common	
Response Time	OFF-ON	0.5ms or less		
	ON-OFF	1ms or less (rated load, resistive load)		
External Supply Power	Voltage	12 to 24VDC (+20%/-15%, ripple ratio within 5%)		
	Current	9mA (at 24VDC)	13mA (at 24VDC)/common	9mA (at 24VDC)/common
Common Terminal Arrangement		16 points/common	32 points/common	32 points/common
Number of Occupied I/O points		16 points (I/O assignment: 16 output points)	32 points (I/O assignment: 32 output points)	64 points (I/O assignment: 64 output points)
External Connections		18-point terminal block	40-pin connector	40-pin connector x 2
5VDC Internal Current Consumption		100mA (TYP. all points ON)	140mA (TYP. all points ON)	190mA (TYP. all points ON)
Weight (kg)		0.15	0.11	0.12
Dimensions (W x H x D) mm		28.5 x 90 x 117		



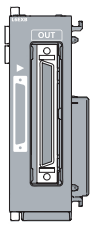
Digital Output Module Specifications (Source Transistor Output Modules)

Model Number		LY40PT5P	LY41PT1P	LY42PT1P
Stocked Item		S	S	S
Certification		UL • cUL • CE		
Number of Output Points		16 points	32 points	64 points
Rated Load Voltage		10.2 to 28.8VDC		
Maximum Load Current		0.5A / point, 5A / common	0.1A / point, 2A / common	
Response Time	OFF-ON	0.5ms or less		
	ON-OFF	1ms or less (rated load, resistive load)		
External Supply Power	Voltage	10.2 to 28.8VDC (ripple ratio within 5%)		
	Current	17mA (at 24VDC)	20mA (at 24VDC)	20mA (at 24VDC)/common
Common Terminal Arrangement		16 points/common	32 points/common	32 points/common
Number of Occupied I/O points		16 points (I/O assignment: 16 output points)	32 points (I/O assignment: 32 output points)	64 points (I/O assignment: 64 output points)
External Connections		18-point screw terminal block	40-pin connector	40-pin connector
5VDC Internal Current Consumption		100mA (TYP. all points ON)	140mA (TYP. all points ON)	190mA (TYP. all points ON)
Weight (kg)		0.15	0.11	0.12
Dimensions (W x H x D) mm		28.5 x 90 x 117		



Combination I/O Modules

Model Number		LH42C4NT1P	LH42C4PT1P
Stocked Item		S	S
Certification		UL • cUL • CE	
Number of Input Points		32 points	
Rated Input Voltage		24 VDC (ripple rate 5% or less)	
Rated Input Current		4.0mA TYP (at 24 VDC)	
Number of Output Points		32 points	
Output Type		Sink	Source
Rated Load Voltage		10.2 to 28.8 VDC	
Maximum Load Current		0.1A/point, 2A / commom	
Input Response Time	OFF-ON	1ms, 5ms, 10ms, 20ms, 70ms, or less	
	ON-OFF	1ms, 5ms, 10ms, 20ms, 70ms, or less	
Output Response Time	OFF-ON	0.5ms or less	
	OFF-ON	1ms or less	
External Supply Power	Voltage	12/24 VDC (ripple rate: 5% or less)	
	Current	9mA (at 24 VDC)/common	20mA (at 24 VDC) / common
Input Common Terminal Arrangement		32 points / common	
Output Common Terminal Arrangement		32 points / common	
Number of Occupied I/O points		32 points	
External Connections		40-pin connector	
5VDC Internal Current Consumption		160 mA (TYP all points ON)	150mA (TYP all points ON)
Weight (kg)		0.12	0.12
Dimensions (W x H x D) mm		28.5 x 90 x 95	



Branch and Extension Modules

Model Number	L6EXB	L6EXE
Stocked Item	S	S
Certification	UL • cUL • CE	
5VDC Internal Current Consumption	0.08	0.08
Weight (kg)	0.12	0.13
Dimensions (W x H x D) mm	28.5 x 90 x 95	

D. Connectors, Cables and Terminal Blocks

For connector type I/O, all L Series and Q Series modules use the same FCN connector. Connectors, cables and terminal blocks are available for both.

Category	Model Number	Description	Stocked Item	Applicable Products (*1)
Connectors (For User-Made Cables)	A6CON1	FCN, 40 Pin, Solder Type	S	L02CPU, L26CPU-BT, LX_, LY_, LD75_, LD62_, QX_, QY_, QH42P, QX41Y41P, Q66DA-G, Q68RD3-G, QD75_, QD72P3C3
	A6CON2	FCN, 40 Pin, Crimp Type	S	
	A6CON3	FCN, 40 Pin, IDC Type	S	
	A6CON4	FCN, 40 Pin, Solder Type, Low-Profile	-	
Direct-Wire Cables	LCBL40P-2M	2.0m I/O Pigtail Cable, 40 Pin	S	L02CPU, L26CPU-BT, LX_, LY_, LD75_, LD62_, QX_, QY_, QH42P, QX41Y41P, Q66DA-G, Q68RD3-G, QD75_, QD72P3C3
	LCBL40P-5M	5.0m I/O Pigtail Cable, 40 Pin	S	
	LCBL40P-10M	10m I/O Pigtail Cable, 40 Pin	S	
Terminal Block Dedicated Cables	FA-SCBL05FMV-M	0.5m Terminal Block Cable	S	FA-LTB40P
	FA-SCBL10FMV-M	1.0m Terminal Block Cable	S	
	FA-SCBL15FMV-M	1.5m Terminal Block Cable	-	
	FA-SCBL20FMV-M	2.0m Terminal Block Cable	S	
	AC_TB	Terminal Block Cable. _ = 0.5m, 1.0m, 2.0m, 3.0m, 4.0m, 5.0m, 8.0m, 10.0m length	S	A6TBXY36, A6TBXY54
Terminal Blocks	FA-LTB40P	Terminal Block, 40 Point	S	L02CPU, L26CPU-BT
	A6TBXY36	Terminal Block, 32 Point	S	LY41NT1P, LY42NT1P, LY41PT1P, LY42PT1P, QX41_, QX42_, QY41_, QY42_, QH_, QX41Y41P
	A6TBXY54	Terminal Block, 32 Point, 2-Wire	-	
Extension Cable	LC06E	0.6m Extension Cable	S	L6EXB
	LC10E	1.0m Extension Cable	S	L6EXE
	LC30E	3.0m Extension Cable	S	

Note:

1. Applicable products are FCN connector type CPUs and Modules.

E. Analog I/O Modules

Analog input and output modules can be added on and configured easily in GX Works2 using built-in utilities.

Model Number		L60AD4 (Analog Input Module)	L60DA4 (Analog Output Module)
Stocked Item		S	S
Certification		UL • cUL • CE	
Number of Analog I/O Points		4 points (ch)	
Analog I/O	Voltage	-10 to 10VDC (Input resistance value 1MΩ)	-10 to 10VDC (External load resistance value 1kΩ to 1MΩ)
	Current	0 to 20mADC (Input resistance value 250Ω)	0 to 20mADC (External load resistance value 0Ω to 600Ω)
Digital Output	Output	-20480 to 20479	
	When Using Scaling Function	-32768 to 32767	
I/O Characteristics, Resolution		See table below	See table below
Accuracy	Ambient Temperature 25 ±5°C	±0.1% (±20 digit)	±0.1% (voltage: ±10mA, current: ±20μA)
	Ambient Temperature 0 to 55°C	±0.2% (±40 digit)	±0.3% (voltage: ±30mV, current: ±60μA)
Conversion Speed		High speed: 20μs/ch; Medium speed: 80μs/ch; Low speed: 1ms/ch	20μs/ch
Absolute Maximum Input		Voltage: ±15V, Current: 30mA (*2)	-
Output Short Protection		-	Available
External Power Supply		-	24VDC (+20%/-15%); Ripple, spike within 500mVp-p Inrush current: 4.3A, 1000μs or less; Current consumption: 0.18A
I/O Device Points Occupied		16 points (I/O assignment: 16 points for Intelligent function module)	
External Connections		18-point terminal block	
5VDC Internal Current Consumption		0.52A	0.16A
Weight (kg)		0.19	0.20
Dimensions (W x H x D) mm		28.5 x 90 x 117	

L60AD4 (Analog Input Module) — I/O Characteristics, Resolution

Analog Input Range		Digital Output Value	Resolution
Voltage	0 to 10V	0 to 20000	500μV
	0 to 5V		250μV
	1 to 5V		200μV
	-10 to 10V	-20000 to 20000	500μV
	Users range setting		307μV (*1)
Current	0 to 20mA	0 to 20000	1000nA
	4 to 20mA		800nA
	Users range setting	-20000 to 20000	1230nA (*1)

L60DA4 (Analog Output Module) — I/O Characteristics, Resolution

Analog Output Range		Digital Value	Resolution
Voltage	0 to 5V	0 to 20000	250μV
	1 to 5V		200μV
	-10 to 10V	-20000 to 20000	500μV
	Users range setting		333μV (*1)
Current	0 to 20mA	0 to 20000	1000nA
	4 to 20mA		800nA
	Users range setting	-20000 to 20000	700nA (*1)

Notes:

1. Maximum resolution in users range settings.
2. Maximum instantaneous current value that will not cause destruction of the internal components. The maximum constant input current value is 24mA.

A/D Converter Module

Model Number		**L60AD4-2GH**
Stocked Item		S
Certification		UL • cUL • CE
Number of Analog I/O Points		4 points (4 channels)
Analog I/O	**Voltage**	-10 to 10VDC (Input resistance value 1MΩ)
	Current	0 to 20mADC (Input resistance value 250Ω)
Digital Output	**Output**	-32000 to 32000
	When Using Scaling Function	-32768 to 32767
I/O Characteristics, Resolution (*1)		See table below
Accuracy (Accuracy for the Maximum Value of the Digital Output Value) (*3)	**Reference Accuracy (*4)**	Within ±0.05% (±16 digit)
	Temperature Coefficient (*5)	±40.1ppm/°C or lower
Conversion Speed		40μ/2 channels
Absolute Maximum Input		Voltage: ±15V, Current: 30mA (*6)
Offset/Gain Setting Count (*7)		Up to 100000 counts
Insulation Method		Between I/O terminals and programmable controller power supply: photocoupler isolation; Between analog input channels: dual channel transformer insulation
Dielectric Withstand Voltage		Between I/O terminals and programmable controller power supply: 500VAC for 1 minute; Between analog input channels: 1000VAC for 1 minute
Insulation Resistance		Between I/O terminals and programmable controller power supply: 500VDC 10MΩ or higher
Number of Occupied I/O Points		16 points (I/O assignment: 16 points for intelligent)
Connected Terminal		18-point terminal block
Applicable Wire Size		0.3 to 0.75mm²
Applicable Solderless Terminal		R1.25-3 (solderless terminals with sleeve are not usable)
5VDC Internal Current Consumption		0.76A
Weight (kg)		0.20
Dimensions (W x H x D) mm		28.5 x 90 x 117

I/O Characteristics, Resolution (*1)

Analog Input Range		Digital Output Value	Maximum Resolution
Voltage	0 to 10V	0 to 32000	312.5μV
	0 to 5V		156μV
	1 to 5V		125μV
	-10 to 10V	-32000 to 32000	312.5μV
	1 to 5V (Extended mode)	-8000 to 32000	125μV
	User range setting (bi-polar: voltage)	-32000 to 32000	200μV (*2)
Current	0 to 20mA	0 to 32000	625nA
	4 to 20mA		500nA
	4 to 20mA (Extended mode)	-8000 to 32000	500nA
	User range setting (uni-polar: current)	0 to 32000	400nA (*2)

Notes:

1. For details on the I/O conversion characteristic, refer the I/O Conversion Characteristic of A/D Conversion in Users Manual.
2. Maximum resolution in the user range setting.
3. Except when receiving noise influence.
4. Accuracy under the ambient temperature when the offset/gain setting is performed.
5. Accuracy when the temperature changes 1°C EX: Accuracy when the temperature changes from 25°C to 30°C 0.05% + 0.00401%/°C (temperature coefficient) × 5°C (temperature change) = 0.070%
6. A momentary input current value which does not cause damage to internal resistors of the module. The maximum input current value for constant application is 24mA.
7. If the number of offset/gain settings exceeds 100000 times, an error occurs. The error code (170) is stored in Latest error code (Un\G19), Error flag (XF) turns on, then the ERR. LED turns on.

Combination Analog Module

Model Number		**L60AD2DA2**
Stocked Item		S
Certification		UL • cUL • CE
Number of Analog Output Points		2 points (2 channels)
Number of Analog Input Points		2 points (2 channels)
Digital Input	**Input**	-16384 to 16383
	With Scaling Function	-32768 to 32767
Analog Output	**Voltage**	-10 to 10VDC (external load resistance 1kΩ to 1MΩ)
	Current	0 to 20mADC (External load resistance 0Ω to 600Ω)
Analog Input	**Voltage**	-10 to 10 VDC (input resistance 1MΩ)
	Current	0 to 20mADC (input resistance 250Ω)
DIgital Output	**Output**	-16384 to 16383
	With Scaling Function	-32768 to 32767

I/O Characteristics, Resolution (*1)

Analog Output Range		Digital Input Value	Resolution
Voltage	0 to 5V	0 to 12000	416µV
	1 to 5V		333µV
	-10 to 10V	-16000 to 16000	625µV
	User Range Setting (Bi-Polar: Voltage)	-12000 to 12000	319µV (*2)
Current	0 to 20mA	0 to 12000	166nA
	4 to 20mA		1333nA
	User Range Setting	-12000 to 12000	696nA (*2)

Analog Input Range		Digital Output Value	Resolution
Voltage	0 to 10V	0 to 16000	625µV
	0 to 5V	0 to 12000	416µV
	1 to 5V		333µV
	-10 to 10V	-16000 to 16000	625µV
	1 to 5V (Extended mode)	-3000 to 13500	333µV
	User Range Setting (Voltage)	-1200 to 12000	321µV
Current	0 to 20mA	0 to 12000	1666nA
	4 to 20mA		1333nA
	4 to 20mA (Extended mode)	-3000 to 13500	1333nA
	User Range Setting (Current)	-12000 to 12000	1287nA (*2)

Accuracy (Accuracy for the Maximum Value of the Analog Output Value) (*3)

Analog Output Range		Ambient Temperature	
		25 ±5°	0 to 55°
Voltage	0 to 5V	Within ±0.2% (±10mV)	Within ±0.4% (±20mV)
	1 to 5V		
	-10 to 10V	Within ±0.2% (±20mV)	Within ±0.4% (±40mV)
Current	0 to 20mA	Within ±0.2% (±40µA)	Within ±0.4% (±80µA)
	4 to 20mA		

Analog Input Range		Ambient Temperature	
		25±5° C	0~55° C
Voltage	0 to 10V	±0.2% (±32 digit)	± 0.3% (±48 digit)
	-10 to 10V		
	0 to 5V	± 0.2% (± 24 digit)	± 0.3% (± 36 digit)
	1 to 5V		
	1 to 5V (Extended mode)		
Current	0 to 20mA		
	4 to 20mA		
	4 to 20 mA (Extended mode)		

Conversion Speed	80µ/channel (*4)
Output Short Protection	Protected
Offset/Gain Setting Count (Flash Memory Write Count) (*5)	Up to 100000 counts
Insulation Method	Between I/O terminals and programmable controller power supply: photocoupler isolation; Between I/O channels: no isolation Between the external power supply and analog I/O channels: transformer isolation
Dielectric Withstand Voltage	Between I/O terminals and programmable controller power supply: 500VAC for 1 minute; Between the external pwer supply and analog I/O: 500VAC for 1 minute
Insulation Resistance	Between I/O terminals and programmable controller power supply: 500VDC 10MΩ or higher
Number of Occupied I/O Points	16 points (I/O assignment: 16 points for intelligent)
Connected Terminal	18-point terminal block
Applicable Wire Size	0.3 to 0.75mm²
Applicable Solderless Terminal	R1.25-3 (solderless terminals with sleeve are not usable)
External Power Supply	24VDC +20%, -15%; Ripple, spike 500mVp-p or lower; Inrush current 3.5A, 1000µ or shorter; Current consumption 0.12A
Internal Current Consumption (5VDC)	0.17A
Weight (kg)	0.22
Dimensions (W x H x D) mm	28.5 x 90 x 117

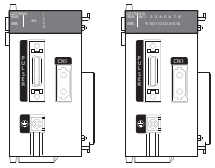
Notes:

1. For details on the I/O conversion characteristic, refer to the I/O Conversion Characteristic of A/D Conversion in Users Manual.
2. Maximum resolution in the user range setting.
3. Except when receiving noise influence.
4. For details on the conversion speed, refer to the enable/disable settings and conversion speed of A/D and D/A in the Users Manual.
5. If the number of offset/gain settings exceeds 100000 times, an error (error code 170) occurs.

F. Intelligent Function Modules

Temperature I/O Modules

Model Number			L60TCTT4	L60TCRT4	L60TCTT4BW	L60TCRT4BW
Stocked Item			S	S	S	S
Control Output			Transistor output			
Number of Temperature Input Points			4 channels/module			
Type of Usable Temperature Sensors, the Temperature Measurement Range, the Resolution, and the Effect From Wiring Resistance of 1Ω			Thermocouple	Resistive thermal device	Thermocouple	Resistive thermal device
Accuracy	Indication Accuracy	Ambient Temperature: 25 ±5°C	Full scale × (±0.3%)			
		Ambient Temperature: 0 to 55°C	Full scale × (±0.7%)			
	Cold Junction Temperature Compensation Accuracy: (Ambient Temperature: 0 to 55°C)	Temperature Process Value (PV): -100° C or More	Within ±1.0°C	-	Within ±1.0°C	-
		Temperature Process Value (PV): -150 to -100°C	Within ±2.0°C		Within ±2.0°C	
		Temperature Process Value (PV): -200 to -150°C	Within ±3.0°C		Within ±3.0°C	
Sampling Cycle			250ms/4 channels, 500ms/4 channels			
Control Output Cycle			0.5 to 100.0s			
Input Impedance			1MΩ			
Input Filter			0 to 100s (0: Input filter OFF)			
Sensor Correction Value Setting			-50.00 to 50.00%			
Operation at Sensor Input Disconnection			Upscale processing			
Temperature Control Method			PID ON/OFF pulse or two-position control			
PID Constants Range		PID Constants Setting	Can be set by auto tuning			
		Proportional Band (P)	0.0 to 1000.0% (0: Two-position control)			
		Integral Time (I)	0 to 3600s (set 0 for P control and PD control)			
		Derivative Time (D)	0 to 3600s (set 0 for P control and PI control)			
Set Value (SV) Setting Range			Within the temperature range set in the thermocouple/platinum resistance thermometer to be used			
Dead Band Setting Range			0.1 to 10.0%			
Transistor Output		Output Signal	ON/OFF pulse			
		Rated Load Voltage	10 to 30VDC			
		Max. Load Current	0.1A/point, 0.4A/common			
		Max. Inrush Current	0.4A 10ms			
		Leakage Current at OFF	0.1mA or less			
		Max. Voltage Drop at ON	1.0VDC (TYP) at 0.1A 2.5VDC (MAX) at 0.1A			
		Response Time	OFF–ON: 2ms or less, ON–OFF: 2ms or less			
Number of Accesses to Non-Volatile Memory			Max. 10^{12} times			
Heater Disconnection Detection Specifications		Current Sensor	-		See L Series User's Manual	
		Input Accuracy			Full scale × (±1.0%)	
		Number of Alert Delay			3 to 255	
Number of Occupied I/O Points			16 points (I/O assignment: 16 intelligent points)			
Number of Occupied Module			1		2	
External Connection			18-point terminal block		Two 18-point terminal blocks	
Internal Current Consumption			0.30A	0.31A	0.33A	0.35A
Weight (kg)			0.18		0.33	
Dimensions (W x H x D) mm			28.5 x 90 x 117		57.0 x 9 x 117	



Simple Motion Modules

Model Number		LD77MH4	LD77MH16
Stocked Item		S	S
Number of Control Axes		4	16
Operation Cycle (ms)		0.88	0.88/1.77
Control System		PTP (Point To Point) control, path control (both linear and arc can be set), speed control, speed-position switching control, position-speed switching control, Speed-torque control	
Control Unit		mm, inch, degree, PLS	
Positioning Data		600 data/axis. (Can be set with GX Works2 or sequence program)	
Backup		Parameters, positioning data, and block start data can be saved on flash ROM (battery-less backup)	
Positioning System		PTP control: Incremental system/absolute system; Speed-position switching control: Incremental system/absolute system (*1); Position-speed switching control: Incremental system; Path control: Incremental system/absolute system	
Applicable Connector for External Input Signal		LD77MHIOCON	
SSCNET III Cable	MR-J3BUS_M [m (ft)] (*2)	LD77MH MR-J3(W)-_B/MR-J3(W)-_B MR-J3(W)-_B; Standard cord for inside panel; 0.15 (0.49), 0.3 (0.98), 0.5 (1.64), 1 (3.28), 3 (9.84)	
	MR-J3BUS_M-A [m (ft)] (*2)	LD77MH MR-J3(W)-_B/MR-J3(W)-_ MR-J3(W)-_B; Standard cable for outside panel; 5 (16.40), 10 (32.81), 20 (65.62)	
	MR-J3BUS_M-B [m (ft)] (*2,*3)	LD77MH MR-J3(W)-_B/MR-J3(W)-_B MR-J3(W)-_B; Long distance cable; 30 (98.43), 40 (131.23), 50 (164.04)	
5VDC Internal Current Consumption (A)		0.55	0.70
Flash ROM Write Count		Max. 100000 times	
Number of Occupied I/O Points (Points)		32 (I/O assignment: Intelligent function module 32 points)	
Number of Applicable Modules		Up to 5 modules	
Outline Dimensions mm (inch) W x H x D		45.0 x 90.0 x 95.0 (1.77 x 3.54 x 3.74)	
Weight (kg)		0.22	
External Command Signal - Switching Signal		DI signal (External start or speed-position switching can be selected by parameter.)	

Notes:

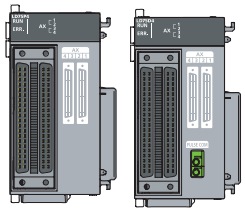
1. In speed-position switching control (ABS mode), the control unit available is “degree” only.
2. _ = Cable length: (015: 0.15m (0.49ft.), 03: 0.3m (0.98ft.), 05: 0.5m (1.64ft.), 1: 1m (3.28ft.), 3: 3m (9.84ft.), 5: 5m (16.40ft.), 10: 10m (32.81ft.), 20: 20m (65.62ft.), 30: 30m (98.43ft.), 40: 40m (131.23ft.), 50: 50m (164.04ft.))
3. For the cable of less than 30[m](98.43[ft.]), contact your nearest Mitsubishi sales representative.

SSCNET III Head Module

Model Number		LJ72MS15
Stocked Item		S
Certification		UL • cUL • CE
Maximum Link Points Per Network	RWr, RX	256 bytes in total
	RWw, RY	256 bytes in total
Maximum Link Points Per Station	RWr, RX	64 bytes in total
	RWw, RY	64 bytes in total
Communication Speed		150Mbps
Maximum Connectable Stations Per Network (*1)	Communication Cycle:	888µs: 4 stations
		444µs: 2 stations
		222µs: 1 station
Connection Cable		SSCNET III cable (optical fiber cable)
Maximum Station-to-Station Distance		POF type: 20m; H-PCF type: 50m
Connection Method		Daisy chain connection (Regenerative relay system with a servo amplifier)
Transmission System		Full-duplex communication (because of the separation of the channels for sending and receiving)
Encoding Method		8B10B + scramble
Transmission Format		Original to SSCNET III/H
Synchronization Method		Synchronization of the control cycle and communication cycle that synchronize with the data transmission of the Motion controller
Communication Cycle		222µs/444µs/888µs
Error Control System		CRC
Head Module		
Number of I/O Points (*2)	X	4096 points, 512 bytes (Number of points accessible to the actual module)
	Y	4096 points, 512 bytes (Number of points accessible to the actual module)
Number of Device Points	X	8192 points, 1KB (Number of usable points on programs); (RX0 is assigned from X0)
	Y	8192 points, 1KB (Number of usable points on programs); (RY0 is assigned from Y0)
	SB	8192 points, 1KB
	SW	8192 points, 16KB
	SM	2048 points, 256 bytes
	SD	2048 points, 4KB
	W	8192 points, 16KB; (RWw0 is assigned from W0, RWr0 is assigned from W1000)
	U□□\G□□	Devices that directly access the buffer memory of intelligent function modules
Number of Writes to the Parameter Memory		Up to 100000 times
Clock Function (For Displaying the Date and Time of an Error)		Year, month, date, hour, minute, and second (automatic leap year detection) When connected to a network, the clock synchronizes periodically with the clock in the Motion controller via the network. (Initial value: 2000/1/1 00:00:00) After the clock information has been acquired from the Motion controller, when the head module is powered off then on, the clock resumes from the time when the power was last turned off. (The clock pauses during power off.) Therefore, the data and time of an error that occurred during initial processing may be different from the actual one.
Allowable Momentary Power Failure Time		Depends on the power supply module used
Internal Current Consumption (5VDC) A		0.55
Laser Classification (JIS C 6802, IEC 60825-1)		Class 1
Weight (kg)		0.20
Dimensions (W x H x D) mm		50 x 90 x 95

Notes:

1. This number includes only head modules. Servo amplifiers are not included.
2. This is the maximum number of points that can be assigned to the actual module in "PLC Parameter" - "I/O Assignment" of GX Works2.



Positioning Modules

Open collector and differential line driver pulse positioning modules can be added on and configured in GX Works2 using built-in utilities.

Model Number			LD75P1/LD75D1 (*1)	LD75P2/LD75D2 (*1)	LD75P4/LD75D4 (*1)
Stocked Item			S	S	S
Certification			UL • cUL • CE		
Number of Control Axes			1 axis	2 axes	4 axes
Interpolation Function			None	2-axis linear interpolation 2-axis circular interpolation	2-, 3-, or 4-axis linear interpolation 2-axis circular interpolation
Control System			PTP (Point To Point) control, path control (both linear and arc can be set), speed control, speed position switching control, position-speed switching control		
Control Unit			mm, inch, degree, pulse		
Positioning Data			600 data/axis (Can be set with GX Works2 or program.)		
Backup			Parameters, positioning data, and block start data can be saved on flash ROM (battery-less backup)		
Positioning Control	Positioning Control System	PTP Control (*1)	Incremental system/absolute system		
		Speed-Position Switching Control	Incremental system/absolute system (*2)		
		Position-Speed Switching Control	Incremental system		
		Path Control	Incremental system/absolute system		
	Positioning Control Range	In Absolute System	–214748364.8 to 214748364.7 (µm) –21474.83648 to 21474.83647 (inch) 0 to 359.99999 (degree) –2147483648 to 2147483647 (pulse)		
		In Incremental System	–214748364.8 to 214748364.7 (µm) –21474.83648 to 21474.83647 (inch) –21474.83648 to 21474.83647 (degree) –2147483648 to 2147483647 (pulse)		
		In speed-Position Switching Control (INC Mode)/Position-Speed Switching Control	0 to 214748364.7 (µm) 0 to 21474.83647 (inch) 0 to 21474.83647 (degree) 0 to 2147483647 (pulse)		
		In Speed-Position Switching Control (ABS Mode) (*2)	0 to 359.99999 (degree)		
	Speed Command		0.01 to 20000000.00 (mm/min) 0.001 to 2000000.000 (inch/min) 0.001 to 2000000.000 (degree/min) 1 to 4000000 (pulse/s)		
	Acceleration/Deceleration System Selection		Trapezoidal acceleration/deceleration, S-curve acceleration/deceleration		
	Acceleration/Deceleration Time		1 to 8388608 (ms) Four patterns can be set for each of acceleration time and deceleration time		
	Sudden Stop Deceleration Time		1 to 8388608 (ms)		
Starting Time (*3)			1-axis linear control: 1.5ms 1-axis speed control: 1.5ms 2-axis linear interpolation control (Composite speed): 1.5ms 2-axis linear interpolation control (Reference axis speed): 1.5ms 2-axis circular interpolation control: 2.0ms 2-axis speed control: 1.5ms 3-axis linear interpolation control (Composite speed): 1.7ms 3-axis linear interpolation control (Reference axis speed): 1.7ms 3-axis speed control: 1.7ms 4-axis linear interpolation control: 1.8ms 4-axis speed control: 1.8ms Factors in starting time extension. The following times will be added to the starting time in the described conditions: • S-curve acceleration/ deceleration is selected: 0.1ms; Other axis is in operation: 0.5ms; During continuous positioning control: 0.3ms; During continuous path control: 0.3ms		
External Wiring Connection System			40-pin connector		
Applicable Wire Size			0.3mm² (22AWG) (for A6CON1 or A6CON4), 0.088 to 0.24mm² (28 to 24AWG) (for A6CON2)		
Applicable Connector For External Device			A6CON1, A6CON2, A6CON4 (sold separately)		
Max. Output Pulse			LD75P1, LD75P2, LD75P4: 200kpulse/s; LD75D1, LD75D2, LD75D4: 4Mpulse/s		
Max. Connection Distance Between Servos			LD75P1, LD75P2, LD75P4: 2m; LD75D1, LD75D2, LD75D4: 10m		
Internal Current Consumption (5VDC)			LD75P1: 0.44A; LD75D1: 0.51A	LD75P2: 0.48A; LD75D2: 0.62A	LD75P4: 0.55A; LD75D4: 0.76A
Flash ROM Write Count			Max. 100000 times		
No. of Occupied I/O Points			32 points (I/O assignment: intelligent 32 points)		
Weight (kg)			0.18		
Dimensions (W x D x H) mm			45.0 x 95.0 x 90.0		

Notes:

1. LD75P represents the open collector output system, and LD75D represents the differential driver output system.
2. In speed-position switching control (ABS mode), the control unit available is “degree” only. (For details, refer to Section 9.2.17 “Speedposition switching control (ABS mode)”.
3. Using the “Pre-reading start function”, the virtual start time can be shortened. (For details, refer to Section 12.7.7 “Pre-reading start function”.

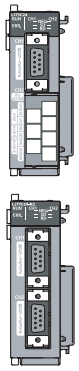
High Speed Counting Modules

High-speed counter modules can be added on and configured in GX Works2 using built-in utilities.

Model Number			LD62 (DC Input)	LD62D (Differential Input)
Stocked Item			S	S
Certifications			UL • cUL • CE	
Number of Channels			2ch	
Counting Speed Switch Setting			10kpulse/s, 100kpulse/s, 200kpulse/s	10kpulse/s, 100kpulse/s, 200kpulse/s, 500kpulse/s
Count Input Signal	Phase		1-phase input (multiple of 1/2), CW/CCW, 2-phase input (multiple of 1/2/4)	
	Signal Level		5/12/24VDC 2 to 5mA	EIA Standard RS-422-A differential type line driver level (Equivalent with AM26LS31)
Counter	Maximum Counting Speed		200kpulse/s	500kpulse/s
	Counting Range		Binary with 32-bit code (-2147483648 to 2147483647)	
	Type		UP/DOWN preset counter (+ ring counter function)	
	Minimum Count Pulse Width (Duty Ratio 50%)		10kpulse/s: 50µs 100kpulse/s: 5µs 200kpulse/s: 2.5µs	10kpulse/s: 50µs 100kpulse/s: 5µs 200kpulse/s: 2.5µs 500kpulse/s: 1µs
	Minimum Phase Differential for 2-Phase Input		10kpulse/s: 25µs 100kpulse/s: 2.5µs 200kpulse/s: 1.25µs	10kpulse/s: 25µs 100kpulse/s: 2.5µs 200kpulse/s: 1.25µs 500kpulse/s: 0.5µs
Comparison Output	Comparison Range		Binary with 32-bit code (-2147483648 to 2147483647)	
	Comparison Result		Set value < Count value; Set value = Count value; Set value > Count value	
External Input	Preset		5/12/24VDC 2 to 5mA	5/12/24VDC 2 to 5mA (Differential type line drivers conforming to EIA standard RS-422-A are also applicable.)
	Function Start			
	Minimum Input Response Time	OFF-ON	Function start: 0.5ms	
		ON-OFF	Function start: 1ms	
External Output	Comparison Output		2 points/channel	
	Output Voltage/Current		12 to 24VDC 0.5A	
	Output Response Time	OFF-ON	0.1ms or less (rated load, resistive load)	
		ON-OFF		
I/O Device Points Occupied			16 points (I/O assignment: 16 points for intelligent function module)	
External Connections			40-pin connector	
5VDC Internal Current Consumption (A)			0.31	0.36
Weight (kg)			0.13	
Dimensions (W x D x H) mm			28.5 x 90 x 95	

Serial Communication Modules

Serial communication modules can be added on and configured in GX Works2 using pre-defined or user-defined protocols.



Model Number		LJ71C24	LJ71C24-R2
Stocked Item		S	S
Certification		UL • cUL • CE	
Interface	ch1	RS-232-compliance (D-Sub 9P female)	RS-232-compliance (D-Sub 9P female)
	ch2	RS-422/485-compliance (2-piece terminal block)	RS-232-compliance (D-Sub 9P female)
Communication System	Line	Full duplex/half duplex	
	MC Protocol	Half duplex	
	Pre-Defined Protocol	Full duplex/half duplex	
	Nonprocedural Protocol		
	Bidirectional Protocol		
Synchronization Method		Start-stop synchronization method	
Transmission Speed		50bps/300bps/600bps/1200bps/2400bps/4800bps/9600bps/14.4kbps/ 19.2kbps/28.8kbps/38.4kbps/57.6kbps/115.2kbps/230.4kbps; Transmission speed 230.4kbps is only available for channel 1. Total transmission speed of two interfaces is available up to 230.4kbps. Total transmission speed of two interfaces is available up to 115.2kbps when the communication data monitoring function is used.	
Access Cycle	MC Protocol	Processes one request during installed C24 CPU module END processing. (Number of scans that must be processed/number of link scans depends on the contents of the request.)	
	Pre-Defined Protocol	Sends or receives data when requested with the dedicated instruction (CPRTCL).	
	Nonprocedural Protocol	Sends data each time a send request is issued. Can receive at any time.	
	Bidirectional Protocol		
Error Detection	Parity Check	All protocols and when ODD/EVEN is selected by parameter.	
	Sum Check Code	MC protocol/bidirectional protocol selected by parameter. For the pre-defined protocol, whether or not a sum check code is needed depends on the selected protocol. Nonprocedural protocol selected by user frame.	
Transmission Control		RS-232: DTR/DSR (ER/DR) Control: Enabled; RS/CS Control: Enabled; CD Signal Control: Enabled; DC1/DC3 (Xon/Xoff) Control DC2/DC4 Control: Enabled RS-422/485: DTR/DSR (ER/DR) Control: Disabled; RS/CS Control: Disabled; CD Signal Control: Disabled; DC1/DC3 (Xon/Xoff) Control DC2/DC4 Control: Disabled • DTR/DSR signal control and DC code control are selected by the user.	
Transmission Distance (Overall Distance)	RS-232	Maximum 15m (overall distance)	
	RS-422/485	Maximum 1200m (overall distance)	-
I/O Device Points Occupied		32 points (I/O assignment: 32 points for intelligent function module)	
5VDC Internal Current Consumption (A)		0.39	0.26
Weight (kg)		0.17	0.14
Dimensions (W x D x H) mm		28.5 x 90 x 118	28.5 x 90 x 99

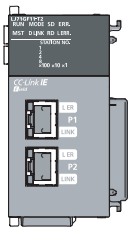
G. Networks

Ethernet Module

Model Number			LJ71E71-100	
			100BASE-TX	10BASE-T
Stocked Item			S	
Certification			UL • cUL • CE	
Transmission Specifications	Data Transmission Speed		100Mbps	10Mbps
	Interface		RJ45 (AUTO MDI/MDI-X)	
	Communication Mode		Full-duplex / Half-duplex	Half-duplex
	Transmission Method		Base band	
	Maximum Segment Length		100m (length between a hub and a node)	
	Maximum Number of Cascade Connections		Cascade connection (maximum of 2 levels)	Cascade connection (maximum of 4 levels
Sending/ Receiving Data Storage Memory	Number of Simultaneous Open Connections		16 connections (Connections usable on a program)	
	Fixed Buffer		1k word x 16	
	Random Access Buffer 6k Words		6k words x 1	
	E-Mail	Attachment	6k words x 1	
		Main Text	960k words x 1	
Number of Occupied I/O Points			32 points (I/O assignment: Intelligent 32 points)	
Internal Current Consumption (5VDC)			0.60A	
Weight (kg)			0.18	
External Dimensions (W x H x D) mm			28.5 x 95 x 90	

CC-Link IE Field Master/Slave

CC-Link IE Field brings 1 Gigabit speed for cyclic, acyclic and transient data transmission to RJ45 and Cat 5e cabling infrastructure. Create mixtures of line and star topology, and maintain control over up to 120 controller or remote I/O stations simultaneously on the same network.



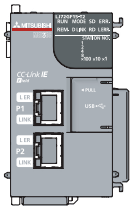
Model Number		LJ71GF11-T2
Stocked Item		S
Certification		UL • cUL • CE
Network Common Memory		32k bytes
Transient Transmission Capacity		2048 bytes
Ethernet	Communication Speed	1Gbps
	Connection Cable	An Ethernet cable that meets the 1000BASE-T standard (Category 5e or higher, shielded RJ45)
	Maximum Station-to-Station Distance	100m max. (Compliant with ANSI/TIA/EIA-568-B (Category 5e))
	Total Distance	Line topology: 12000m (when connected to 1 master station and 120 slave stations) Star topology: Depends on the system configuration
	Number of Cascade Connections	Up to 20
	Transmission Path	Star, Line, Mixed Star & Line, and Ring
Number of Connected Stations in One Network	Master Station	1 station
	Local Station	120 stations (Local station or Remote I/O) (*1)
Maximum Number of Networks		239
Communication Method		Token passing method
Number of Occupied I/O Points		32 points (I/O assignment: Intelligent 32 points)
Internal Current Consumption (5VDC) (A)		0.89
Weight (kg)		0.27
Dimensions (W x H x D) mm		45 x 90 x 95

Note:

1. For CC-Link IE Field Remote I/O stations, refer to the LJ72GF15-T2 CC-Link IE Field Slave Head station.

CC-Link IE Field Slave Head Station

In place of an L Series CPU, CC-Link IE Field Slave Head Stations can be used to provide remote control over Digital I/O, Analog, Motion, High-Speed Counter, Serial Communication, and CC-Link Master/Local Station modules via CC-Link IE Field.



Model Number	LJ72GF15-T2 (*1)
Stocked Item	S
Certification	UL • cUL • CE
Transmission Speed	1Gbps
Network Topology	Star, Line, Mixed Star & Line, and Ring
Communication Method	Deterministic (token passing)
Maximum Number of Mountable Modules	10 (120 when using extension and branch modules)
Communication Port	CC-Link IE field network port x 2, USB port (Mini-B terminal) x 1
RAS Function	Network event logging, unit error logging, testing, monitoring, and error history preservation function
Connection Cable	Ethernet cable (category 5 or higher)
Dimensions (W x H x D) mm	50 x 90 x 95

Note:

1. CC-Link IE Field network requires CC-Link IE Field Master module.

CC-Link Master/Local Station

Additional CC-Link Master/Local Stations can be added on and configured in GX Works2.

Model Number		LJ61BT11
Stocked Item		S
Certification		UL • cUL • CE
Transmission Speed		156kbps/625kbps/2.5Mbps/5Mbps/10Mbps
Maximum Overall Cable Distance (Maximum Transmission Distance)		1.2 km (without repeater, varies according to the transmission speed.)
Maximum Number of Connected Stations (Master Station)		64
Number of Occupied Stations (Local Station)		1 to 4 stations (The number of stations can be switched using the GX Works2 parameter setting.)
Maximum Number of Link Points Per System (*1)	Remote I/O (RX, RY)	2048 points
	Remote Register (RWw)	256 points (master station remote device station/local station/intelligent device station/standby master station)
	Remote Register (RWr)	256 points (remote device station/local station/intelligent device station/standby master station master station)
Number of Link Points Per Station (*1)	Remote I/O (RX, RY)	32 points (local station is 30 points)
	Remote Register (RWw)	4 points (master station remote device station/local station/intelligent device station/standby master station)
	Remote Register (RWr)	4 points (remote device station/local station/intelligent device station/standby master station master station)
Transmission Path		Bus (RS-485)
RAS Function		Automatic return function; Slave station cut-off function; Error detection via link special relay/register
Connection Cable		CC-Link dedicated cables compatible with Ver.1.10
I/O Device Points Occupied		32 points (I/O assignment: 32 points for intelligent function module)
5VDC Internal Current Consumption		0.46A
Weight (kg)		0.15
Dimensions (W x H x D) mm		28.5 x 90 x 118

Note:

1. Indicates the number of link points for Remote net Ver.1 mode.

IO Link Master

Model Number			ME1IOL6-L
Stocked Item			-
Number of Ports			6
Port Configuration			IO-Link, Digital output (SIO mode), Digital input (SIO mode), Disabled
IO-Link Mode		Rated Voltage	24 VDC
		Rated Output Current (C/Q)	15 mA
		Rated Sensor/Actuator Supply Current (L+)	200 mA
SIO Mode	Digital Input	Input Type	Sink
		Rated Voltage	24 VDC
		Internal Pull-Down Current (C/Q)	5 mA
		Input Filter (HW and SW)	200 µs
	Digital Output	Rated Voltage	24 VDC
		Rated Output Current (C/Q)	200 mA Max. current per port (sum of C and L+): 215 mA
		Rated Sensor/Actuator Supply Current (L+)	
		Output Type	Push-pull
Port Disabled		Communication Line (C/Q)	Switched OFF
		Sensor/Actuator Supply Line Switched OFF (L+)	
Protection Functions	Communication Line (C/Q)		Over-current, over-load and short-circuit
	Sensor/Actuator Supply Line (L+)		
Insulation Method	Between the I/O Terminals and PLC Power Supply		Photocoupler isolation
	Between Channels		No isolation
Dielectric Withstand Voltage			Between I/O terminals and programmable controller power supply: 500 V ACrms for 1 minute
Insulation Resistance			Between I/O terminals and programmable controller power supply: 500 VDC 10 MΩ or more
Number of I/O Occupied Points			32 points (I/O assignment: Intelligent 32 points)
External Wiring Connection System			18-points terminal block
Cable Specification		Cable Type	Unshielded cable
		Maximum Length	20 m
		Applicable Wire Size	0.3 to 0.75mm²
		Overall Loop Resistance	6 Ω
		Effective Line Capacitance	3 nF
Applicable Solderless Terminals			R1.25-3 (Solderless terminals with sleeves cannot be used)
External Supply Power		Voltage	24 VDC (+20%, -15%); ripple, spike within 500mVP-P In order to keep the specified IO-Link output voltage levels (L+ line) the external supply voltage must be higher than 22 VDC
		Current (A)	The sum current on the L- lines must not exceed 1.7
		Inrush Current	8 A within 230 µs
Internal Current Consumption (5 VDC) (A)			0.06
Online Module Change			Not supported
Weight (kg)			0.18

CC-Link/LT Master Module

Model Number	LJ61CL12
Stocked Item	-
Certification	UL • cUL • CE
Transmission Speed	156kbps/625kbps/2.5Mbps
Network Topology	T-branch
Communication Method	Deterministic (CRC)
Number of Connectable Modules	64
Number of Occupied I/O Points	16 points (I/O assignment: 1024points for intelligent function module)
5VDC Internal Current Consumption	0.16A
Weight (kg)	0.12
Dimensions (W x H x D) mm	28.5 x 90 x 95

H. Accessories

Display Module Specifications

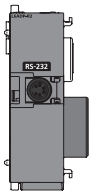
Use the Display Module for on-site maintenance and troubleshooting, directly from the PLC without a computer or software. Monitor devices, force devices and adjust intelligent function module parameters, all while using User Messages prompted by the program.

Model Number	L6DSPU (*1)
Stocked Item	S
Number of Display Characters	16 characters x 4 lines
Language Selection	English and Japanese
Backlight Display	Green and red
Weight (kg)	0.03
Dimensions (W x H x D) mm	45 x 50 x 17.3

Note:
1. Display unit included in CPU sets, L02CPU-SET and L26CPU-BT-SET.

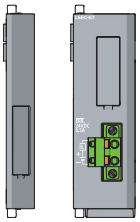
RS-232 Adapter Specifications

Model Number	L6ADP-R2
Stocked Item	S
Maximum Data Transmission Speed	115.2kbps
5VDC Internal Current Consumption	0.02A
Weight (kg)	0.10
Dimensions (W x H x D) mm	28.5 x 90 x 95



End Cover and End Cover with Error Terminal

Model Number	L6EC	L6EC-ET
Stocked Item	S	S
Rated Switching Voltage, Current	-	24VDC, 0.5A
Minimum Switching Load	-	5VDC, 1mA
Response Time	-	OFF to ON: 10ms or less; ON to OFF: 12ms or less
Life	-	Mechanical: 20 million or more Electrical: 100 thousand or more for rated switching voltage and current
Surge Suppressor	-	None
Fuse	-	None
External Connection System	-	Spring clamp terminal block
Applicable Wire Size	-	0.3 to 2.0mm² (AWG22 to 14) (Stranded wire/single wire)
Internal Current Consumption	0.04A	0.06A
Weight (kg)	0.06	0.11
Dimensions (W x H x D) mm	13 x 90 x 95	28.5 x 90 x 95



Note: L Series CPU modules and the CC-Link IE Field Slave Head Station are supplied with a standard End Cover included.

Backup Batteries

Uses standard Q Series backup batteries. See Programmable Automation Controllers section for more details.

Memory Cards

Mitsubishi provides industrial grade SD memory cards for the L Series. Commercially available SD/SDHC cards supported up to 32GB.

Model Number	Memory Card	Stocked Item
L1MEM-2GBSD	2GB	S
L1MEM-4GBSD	4GB	S